

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method to improve quality of black and white images of tag-based color imaging systems in a color image path by exploiting resources of otherwise un-utilized channels, comprising:

- a) receiving data processed from an input image;
- b) receiving image analysis tags associated with the pixels of said input image data;
- c) providing said tags to each channel of said ~~an~~ image processing module to control image processing;
- d) performing image processing on said input image data to provide a video signal output thereof;
- e) replicating said video output signal on ~~all~~ otherwise un-utilized output channels of said image processing module, thereby exploiting the resources of said otherwise un-utilized output channels to provide imaging processing functions comprising filters, TRCs, halftoning modules, or rendering methods;
- f) merging each video signal from each of said output channels based on the tags; and
- g) outputting said merged video signal.

2. (Currently Amended) A method to improve image quality as in **claim 1** wherein the tags ~~are determined from one or more~~ indicate at least one characteristics of the image that are determined through segmentation.

3. (Original) A method to improve image quality as in **claim 1** wherein the received data processed from said input image is obtained from a memory.

4. (Original) A method to improve image quality as in **claim 1** wherein said tags are generated in an image analysis module.
5. (Original) A method to improve image quality as in **claim 4** wherein said tags describe for each pixel its classification (e.g., continuous tone, low frequency halftone, high frequency halftone, text, etc).
6. (Original) A method to improve image quality as in **claim 1** wherein said image processing includes filtering, Tonal Reproduction Curves or TRCs, and rendering based.
7. (Currently Amended) A method to improve image quality as in **claim 1** wherein different de-screen filters with ~~various~~ cut-off frequencies and enhancement filters are applied to the image based on pixel classification.
8. (Original) A method to improve image quality as in **claim 1** wherein said image processing comprises multiple resources to enhance image quality.
9. (Original) A method to improve image quality as in **claim 1** wherein additional channel modes are utilized in a CMYK image path for processing in 3-channel color space.
10. (Original) A method to improve image quality as in **claim 1** wherein a 4<sup>th</sup> channel provides resources for the luminance channel.

11. (Original) A method to improve image quality as in **claim 1** wherein additional channel modes are utilized in a color image path for processing in 1-channel Black and White mode.

12. (Currently Amended) A system for improving the quality of black and white images in a color image path of tag-bases color imaging systems by exploiting resources of otherwise un-utilized channels, comprising:

at least one processor in communication with a storage device;

sufficient software and hardware to perform:

- a) receiving data processed from an input image;
- b) receiving image analysis tags associated with the pixels of said input image data;
- c) providing said tags to each channel of ~~said an~~ image processing module to control image processing;
- d) performing image processing on said input image data to provide a video signal output thereof;
- e) replicating said video output signal on ~~all~~ otherwise un-utilized output channels of said image processing module, thereby exploiting the resources of said otherwise un-utilized output channels to provide imaging processing functions comprising filters, TRCs, halftoning modules, or rendering methods;
- f) merging each video signal from each of said output channels based on the tags; and
- g) outputting said merged video signal on; and
- h) a device for rendering said merged video signal.

13. (Currently Amended) A system for improving image quality as in **claim 12** wherein the tags are ~~determined from one or more~~ indicate at least one characteristics characteristic of the image that is determined through segmentation.

14. (Previously Presented) A system for improving image quality as in **claim 12** wherein the received data processed from said input image is obtained from a memory.
15. (Previously Presented) A system for improving image quality as in **claim 12** wherein said tags are generated in an image analysis module.
16. (Original) A system for improving image quality in **claim 15** wherein said tags describe for each pixel its classification (e.g., continuous tone, low frequency halftone, high frequency halftone, text, etc).
17. (Previously Presented) A system for improving image quality in **claim 12** wherein said image processing includes filtering, Tonal Reproduction Curves or TRCs, and rendering based.
18. (Currently Amended) A system for improving image quality in **claim 12** wherein different de-screen filters with ~~various~~ cut-off frequencies and enhancement filters are applied to the image based on pixel classification.
19. (Previously Presented) A system for improving image quality in **claim 12** wherein said image processing comprises multiple resources to enhance image quality.
20. (Previously Presented) A system for improving image quality in **claim 12** wherein additional channel modes are utilized in a CMYK image path for processing in 3-channel color space.

21. (Previously Presented)      A system for improving image quality in **claim 12** wherein a 4<sup>th</sup> channel provides resources for the luminance channel.

22. (Previously Presented)      A system for improving image quality in **claim 12** wherein additional channel modes are utilized in a color image path for processing in 1-channel Black and White mode.